

JUN 04 2002

TECH CENTER 1600/2900

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FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 1708.0280002	APPLICATION NO. 10/005,647
O I P E MAY 31 2002 U.S. PATENT AND TRADEMARK OFFICE		APPLICANT Jalkanen et al.
FILING DATE December 7, 2001		GROUP 1645 1652

U. S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	PATENT & TRADEMARK	NAME	CLASS	SUB- CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL1	WO 96/14425	05/17/1996	WIPO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Yes No
	AM1	WO 98/48006	10/29/1998	WIPO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Yes No
	AN				<input type="checkbox"/>	<input type="checkbox"/>	Yes No
	AO				<input type="checkbox"/>	<input type="checkbox"/>	Yes No
	AP				<input type="checkbox"/>	<input type="checkbox"/>	Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

CN	AR	1	Campbell, P. et al., "Biosynthesis of Heparin/Heparan Sulfate: Purification of the D-Glucuronyl C-5 Epimerase from Bovine Liver," <i>J. Biol. Chem.</i> 269:26953-26958, The American Society of Biochemistry and Molecular Biology Inc. (1994).
CN	AS	1	Casu, B. et al., "Conformational flexibility: a new concept for explaining binding and biological properties of iduronic acid-containing glycosaminoglycans," <i>Trends Biochem. Sci.</i> 13:221-225, Elsevier Science Ltd. (1988).
CN	AT	1	Kelley, L.A. et al., "Enhanced Genome Annotation Using Structural Profiles in the Program 3D-PSSM," <i>J. Mol. Biol.</i> 299:499-520, Academic Press (June 2000).

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MEEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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FORM PTO-1441 INFORMATION DISCLOSURE STATEMENT MAY 31 2002		ATTY. DOCKET NO. 1708.0280002	APPLICATION NO. 10/005,647
		APPLICANT Jalkanen et al.	
		FILING DATE December 7, 2001	GROUP 1645 1652

U. S. PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE	
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION	
AL						Yes No	
AM						Yes No	
AN						Yes No	
AO						Yes No	
AP						Yes No	

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
<i>CP</i>	AR	2	Kjellén, L. and Lindahl, U., "Proteoglycans: Structures and Interactions," <i>Annu. Rev. Biochem.</i> 60:443-475, Annual Reviews Inc. (1991).				
<i>CP</i>	AS	2	Li, J.-p. et al., "Biosynthesis of Heparin/Heparan Sulfate. cDNA Cloning and Expression of D-Glucuronyl C5-Epimerase from Bovine Lung.," <i>J. Biol. Chem.</i> 272:28158-28163, The American Society for Biochemistry and Molecular Biology, Inc. (1997).				
<i>CP</i>	AT	2	Malmström, A. et al., "Biosynthesis of Heparin. Partial Purification of the Uronosyl C-5 Epimerase," <i>J. Biol. Chem.</i> 255:3878-3883, American Society of Biochemistry and Molecular Biology Inc. (1980).				

EXAMINER	<i>CP</i>			DATE CONSIDERED
EXAMINER: Initial if reference considered, whether or not citation is in conformance with BPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.				

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FORM PTO-149 INFORMATION DISCLOSURE STATEMENT MAY 31 2002		ATTY. DOCKET NO. 1708.0280002	APPLICATION NO. 10/005,647
		APPLICANT Jalkanen et al.	
		FILING DATE December 7, 2001	GROUP 1645 1652

U. S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
AL							Yes No
AM							Yes No
AN							Yes No
AO							Yes No
AP							Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
<i>CP</i>	AR	3	Ron, D. et al., "Expression of Biologically Active Recombinant Keratinocyte Growth Factor. Structure/Function Analysis of Amino-Terminal Truncation Mutants," <i>J. Biol. Chem.</i> 268:2984-2988, American Society of Biochemistry Molecular Biology Inc. (1993).				
<i>CP</i>	AS	3	Salmivirta, M. et al., "Heparan sulfate: a piece of information," <i>FASEB J.</i> 10:1270-1279, Federation of American Societies for Experimental Biology (1996).				
<i>CP</i>	AT	3	Wilson, R. et al., "2.2 Mb of contiguous nucleotide sequence from chromosome III of <i>C. elegans</i> ," <i>Nature</i> 368:32-38, Macmillan Magazines Limited (1994).				

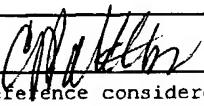
EXAMINER	<i>CP</i>				DATE CONSIDERED
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.					<i>7/28/04</i>

 MAY 31 2002		ATTY. DOCKET NO. 1708.0280002	APPLICATION NO. 10/005,647
		APPLICANT Jalkanen et al.	
		FILING DATE December 7, 2001	GROUP 1645-1652

U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
AL						Yes No
AM						Yes No
AN						Yes No
AO						Yes No
AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)						
	AR	4	Voet, D. and Voet, J.G., "Biochemistry," 2 nd Edition, John Wiley and Sons, Inc., New York, NY, p.965-967 (1995).			
	AS	4	Xu, F. and Cooley, L., "kelch Encodes a Component of Intercellular Bridges in Drosophila Egg Chambers," Cell 72:681-693, Cell Press (1993).			
	AT	4	NCBI Entrez, GenBank Report, Accession No. L08483, from Xue, F. et al. (1993).			

EXAMINER		DATE CONSIDERED
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.		

<p style="text-align: center;">O I P E MAY 31 2002</p> <p style="text-align: center;">FORM PTO-1449 INFORMATION DISCLOSURE STATEMENT</p>		ATTY. DOCKET NO. 1708.0280002		APPLICATION NO. 10/005,647	
		APPLICANT Jalkanen et al.			
		FILING DATE December 7, 2001		GROUP 1645 1652	

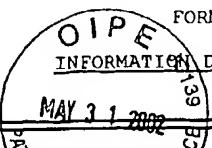
U. S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION	
AL						Yes	No
AM						Yes	No
AN						Yes	No
AO						Yes	No
AP						Yes	No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
<i>CM</i>	AR	5	NCBI Entrez, GenBank Report, Accession No. P46555, from Sulston, J. (1994).				
<i>CM</i>	AS	5	NCBI Entrez, GenBank Report, Accession No. AF043700, from Wilson, R. et al. (1998).				
<i>CM</i>	AT	5	NCBI Entrez, GenBank Report, Accession No. AAF36018, from The C. elegans Sequencing Consortium et al. (1998).				

EXAMINER	<i>CM</i>	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

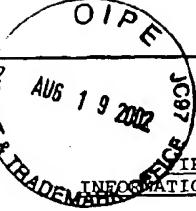
 FORM PTO-1449		ATTY. DOCKET NO.	APPLICATION NO.
		1708.0280002	10/005,647
		APPLICANT Jalkanen et al.	
FILING DATE December 7, 2001		GROUP 1645 // 52	

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	MARK OFFICE	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
		AA					RECEIVED
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
		AL					Yes No
		AM					Yes No
		AN					Yes No
		AO					Yes No
		AP					Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
<i>CP</i>	AR	6	NCBI Entrez, GenBank Report, Accession No. AAF57373, from Adams, M.D. et al. (March 2000).				
<i>CP</i>	AS	6	Féthière, J. et al., "Crystal Structure of Chondroitin AC Lyase, a Representative of a family of Glycosaminoglycan Degrading Enzymes," J. Mol. Biol. 288:635-647, Academic Press (May 1999).				
	AT						

EXAMINER	DATE CONSIDERED						
<i>D. Waller</i>	9/10/04						
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.							

 AUG 19 2002 FORM PTO-1449 FIRST SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 1708.0280002/MAC/MBT	APPLICATION NO. 10/005,647
	APPLICANT Jalkanen et al.	
	FILING DATE December 7, 2001	GROUP 1645 TECH CENTER 1600/2900

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U. S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA1	5,939,289	8/17/1999	Ertesvåg et al.			10/8/1993
	AB1	6,372,477 B1	4/16/2002	Jørsboe et al.			5/27/1998
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
<i>CP</i>	ALY1	WO 01/38507	5/31/2001	Japan			Yes No
	AM1						Yes No
	AN1						Yes No
	AO1						Yes No
	AP1						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

<i>CP</i>	AR	<i>21</i>	Crawford, B.E. et al., "Cloning, Golgi Localization, and Enzyme Activity of the Full-length Heparin/Heparan Sulfate-Glucuronic Acid C5-epimerase", <i>J. Biol. Chem.</i> 276:21538-21543, The American Society for Biochemistry and Molecular Biology, Inc. (June 2001).
<i>CP</i>	AS	<i>21</i>	Li, J.P. et al., "Characterization of the D-Glucuronyl C5-epimerase Involved in the Biosynthesis of Heparin and Heparan Sulfate", <i>J. Biol. Chem.</i> 276:20069-20077, The American Society for Biochemistry and Molecular Biology, Inc. (June 2001).
<i>CP</i>	AT	<i>21</i>	PCT Partial International Search Report for PCT/FT01/01068, filed December 7, 2001, Biotie Therapies Corp. (Search Report mailed August 1, 2002).

EXAMINER	<i>CP/Mattress</i>	DATE CONSIDERED <i>7/28/04</i>
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.		



FORM PTO-1449 SECOND SUPPLEMENTAL <u>INFORMATION DISCLOSURE STATEMENT</u>		ATTY. DOCKET NO. 1708.0280002/MAC/MBT	APPLICATION NO. 10/005,647
		APPLICANT Jalkanen, et al.	
		FILING DATE December 7, 2001	GROUP 1652

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
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	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
<i>CH</i>	AR	28	Hagner-McWhirter, Å. et al., "Biosynthesis of heparin/heparin sulfate: kinetic studies of the glucuronyl C5-epimerase with N-sulfated derivatives of the <i>Escherichia coli</i> K5 capsular polysaccharide as substrates," <i>Glycobiology</i> 10:159-171, Oxford University Press (February 2000)				
<i>CH</i>	AS	28	Hagner-McWhirter, Å. et al., "Biosynthesis of heparin/heparan sulphate: mechanism of epimerization of glucuronyl C-5," <i>Biochem J.</i> 347:69-75, London Portland Press On Behalf Of The Biochemical Society (April 2000)				
<i>CH</i>	AT	28	Nagase, T. et al., "Prediction of the Coding Sequences of Unidentified Human Genes. XII. The Complete Sequences of 100 New cDNA Clones from Brain Which Code for Large Proteins <i>in vitro</i> ," <i>DNA Res.</i> 5:355-364, Tokyo Kazusa DNA Research Institute and Universal Academy Press (1998)				
EXAMINER <i>CH</i>					DATE CONSIDERED <i>4/28/04</i>		
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.							



FORM PTO-1449 SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT		ATTY. DOCKET NO. 1708.0280002/MAC/MBT	APPLICATION NO. 10/005,647
		APPLICANT Jalkanen, et al.	
		FILING DATE December 7, 2001	GROUP 1652

U.S. PATENT DOCUMENTS

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

<i>AP</i>	AR	<i>29</i>	D-glucuronyl C5-epimerase (EC 5.1.3.-) amino acid sequence (mouse), Accession No. Q9EPS3, Database EBI [Online] (March 2001)
<i>AP</i>	AS	<i>20</i>	D-glucuronyl C5-epimerase (EC 5.1.3.-) amino acid sequence (bovine), Accession No. O18756, Database EBI [Online] (January 1998)
<i>AP</i>	AT	<i>29</i>	Database Biosis Biosciences Information Service, Database accession no. PREV200000122890, abstract for Hagner-McWhirter, A. et al., "Biosynthesis of heparin/heparan sulphate: Kinetic studies of the glucuronyl C5-epimerase with N-sulfated derivatives of the Escherichia coli K5 capsular polysaccharide as substrates," (February 2000)

EXAMINER	<i>AP</i>	DATE CONSIDERED
		<i>4/28/04</i>
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FORM PTO-1449		ATTY. DOCKET NO. 1708.0280002/MAC/MBT	APPLICATION NO. 10/005,647
<u>SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT</u>		APPLICANT Jalkanen, et al.	
		FILING DATE December 7, 2001	GROUP 1652

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
AL							Yes No
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AN							Yes No
AO							Yes No
AP							Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

<i>CPN</i>	AR	<i>10</i>	D-glucuronyl C5-epimerase amino acid sequence (EC 5.1.3.-), Accession No. 094923, Database EBI [Online] (May 1999)
<i>CPN</i>	AS	<i>10</i>	Dialog File 351, Accession No. 2001-381292/200140, Derwent WPI English language abstract for WO 01/38507 (May 31, 2001).
<i>CPN</i>	AT	<i>10</i>	International Search Report for International Application No. PCT/FI01/01068 mailed on December 9, 2002.

EXAMINER	<i>CPN</i>	DATE CONSIDERED
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